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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BLACKMAN, ANTHONY J

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 08/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/408,716

Applicant(s)

SAFFER et al

Examiner

Anthony Blackman

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 13, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-14, 16, and 17 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14, 16, and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 6, & 8
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2672

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5/13/2002 have been fully considered but they are not persuasive. Arguments for the Office Action are rendered moot because applicant argues against prior art (main reference-MART US Patent No. 5,986,673) by amended claim limitations. Examiner agrees that MART does not meet requirements for 35 U.S.C. 102 (e) rejection in lieu of amended claims. Therefore Clark has been added to MART to overcome the amended claims. MART teaches the suggestion of linking rules for groups of data in cluster analysis. Because MART provides data display of cluster analysis data, there is the suggestion that linking of nearest neighbors to furthest neighbors and others is possible (CLARK - column 6, lines 14-22, 2931 and 33-37). Wherein CLARK suggests generation, alteration, and display of a second visual representation. Therefore, the display of the linking feature in a second visual form is overcome.
2. MART teaches the suggestion of linking rules for groups of data in cluster analysis (column 2, lines 40-48).

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2672

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-2, 4-9, and ~~11~~¹²-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over MART US Patent No. 5,986,673 in view of CLARK et al US Patent No. 5,574,837.

4. Consider claim 1. MART discloses a method of relationally ordering object (record) attributes provided for data display and analysis of information in two and three dimensional formats teach interactive display of cluster analysis (abstract, lines 1-3 column 1, lines 19-20, figure 7, column 6, lines 33-34 and 45-53); defining a set of graphic images, wherein each graphic image represents a range of values (column 2, lines 49-66, column 3, lines 16-43, column 10, line 55 to column 11, line 10); generating a first surface map with (1) graphic images, representing attributes associated with each record in the set (figure 1), arranged along a first dimension (figure 1, column 2, lines 49-66), and (2) the records, represented by a collection of graphic images, arranged along a second dimension (column 2, lines 49-66, figure 1(MART) illustrates a first and second dimensional surface map that is equivalent to figure 4 of the instant application); however does not expressly disclose "generating a second visual representation of a plurality of the records in the set; receiving from a user selecting a subset of the records from the first surface map; and altering a visual representation of the record in another view". CLARK et al

Art Unit: 2672

disclose/suggests the aforementioned features; generating a second visual representation of a plurality of the records in the set (column 6, lines 14-21, 29-31, and 33-37); receiving from a user selecting a subset of the records from the first surface map (column 6, lines 14-21, 29-31, and 33-37); and altering a visual representation of the record in another view (column 6, lines 14-21, 29-31, and 33-37). It would have been obvious to one skilled in the art at the time of the invention to utilize the cluster tree function (generation, the inherent-analysis, and display-see figure 1) of CLARK et al with the method for data display and analysis of information in a two and three dimensional format (abstract, lines 1-3) related to cluster analysis because both inventions share similar functional technological environments relating to cluster generation and analysis (figure 4, element 405, column 1, lines 48-53, and column 2, lines 42-48).

5. Consider claim 2. The modified MART discloses the method of claim 1, further, MART discloses wherein the graphic images are color-coded blocks (column 3, lines 26-43, column 7, lines 11-13, and observe figures 3, 5-7, and 9-10).

6. Consider claim 4. The method of claim 1, wherein the records are ordered into groups (column 1, lines 5-11, 48-51, column 2, lines 49-66).

7. Consider claim 5. The method of claim 4 where the groups are ordered based on statistical correlation (figures 1-2, and column 1, line 19-47).

Art Unit: 2672

8. Consider claim 6. The modified MART discloses the method of claim 1, further MART discloses wherein the order of the display of the attributes associated with the records is based on statistical correlation (figures 1-2, and column 1, line 19-47).

9. Consider claim 7. The modified MART discloses the method of claim 1, further, MART discloses wherein the order of the display of the attributes associated with the records is based on cluster analysis ((figures 1-2, and column 1, line 19-47).

10. Consider claim 8. The modified MART meets limitations for claim 1. However, does not expressly teach the further comprises of analyzing an index to determine if one or more of the records in the selected subset is shown in the second visualization. CLARK et al disclose/suggest the further comprises of analyzing an index to determine if one or more of the records in the selected subset is shown in the second visualization (the statistical extractor of figure 1, element 110, and column 2, lines 14-32 suggests that the extraction is retrieved from an index the aforementioned features).

11. Consider claim 9. The modified MART discloses the method of claim 1, additionally, MART further comprises the generation of a dendogram to indicate relationships between records (column 1, lines 48-51).

Art Unit: 2672

12. Consider claim 12. MART discloses a method of relationally ordering object (record) attributes provided for data display and analysis of information in two and three dimensional formats teach interactive display of cluster analysis (abstract, lines 1-3 column 1, lines 19-20, figure 7, column 6, lines 33-34 and 45-53); providing a surface map representing a set of records (figure 8, column 10, line 55 to column 11, line 10); however, MART does not expressly teach; linking the surface map to a set of views, wherein at least one of the views comprises a visual representation of a plurality of the records in the set; receiving an input signal selecting a portion of the surface map; and indicating, in a view linked to the surface map, at least one of the records corresponding to the selected portion .

CLARK et al teach/suggest the aforementioned features; linking the surface map to a set of views (column 6, lines 14-21, 29-31, and 33-37), wherein at least one of the views comprises a visual representation of a plurality of the records in a set (column 6, lines 14-21, 29-31, and 33-37); receiving an input signal selecting a portion of the surface map; and indicating (column 6, lines 14-21, 29-31, and 33-37), in a view linked to the surface map, at least one of the records corresponding to the selected portion (column 6, lines 14-21, 29-31, and 33-37). It would have been obvious to one skilled in the art at the time of the invention to utilize the cluster tree function (generation, the inherent-analysis, and display-see figure 1) of CLARK et al with the method for data display and analysis of information in a two and three dimensional format (abstract, lines 1-3) related to cluster analysis because both inventions share similar functional technological

Art Unit: 2672

environments relating to cluster generation and analysis (figure 4, element 405, column 1, lines 48-53, and column 2, lines 42-48).

13. Consider claim 13. MART discloses a method of relationally ordering object (record) attributes provided for data display and analysis of information in two and three dimensional formats teach interactive display of cluster analysis (abstract, lines 1-3 column 1, lines 19-20, figure 7, column 6, lines 33-34 and 45-53); defining a set of graphic images, wherein each graphic image represents a range of values (column 2, lines 49-66, column 3, lines 16-43, column 10, line 55 to column 11, line 10); generating a three-dimensional surface map with (1) each record in the set arranged along a first dimension (figure 1, column 2, lines 49-66), and (2) records, represented by a collection of graphic images, arranged along a second dimension (column 2, lines 49-66, figure 1(MART) illustrates a first and second dimensional surface map that is equivalent to figure 4 of the instant application), and (3) the values associated with the attributes arranged along a third dimension (figures 8-9, column 10, line 55 to column 11, line 10); however does not expressly teach generating a second visual representation of a plurality of the records in the set; receiving input from a user selecting a subset of records on the surface map; analyzing an index to determine if the selected subset is shown in the second visual representation; and altering the second visual representation based on the input, when the selected subset is shown the second visual representation. CLARK et al disclose the aforementioned features of claim 13; generating a

Art Unit: 2672

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second visual representation of a plurality of the records in the set (column 6, lines 14-21, 29-31, and 33-37); receiving input from a user selecting a subset of records on the surface map (column 6, lines 14-21, 29-31, and 33-37); analyzing an index to determine if the selected subset is shown in the second visual representation (column 6, lines 14-21, 29-31, and 33-37); and altering the second visual representation based on the input, when the selected subset is shown the second visual representation (column 6, lines 14-21, 29-31, and 33-37). It would have been obvious to one skilled in the art at the time of the invention to utilize the cluster tree function (generation, the inherent-analysis, and display-see figure 1) of CLARK et al with the method for data display and analysis of information in a two and three dimensional format (abstract, lines 1-3) related to cluster analysis because both inventions share similar functional technological environments relating to cluster generation and analysis (figure 4, element 405, column 1, lines 48-53, and column 2, lines 42-48).

14. Consider claim 14. The modified MART meets limitations for the method of claim 13, wherein the three-dimensional surface map may be rotated in any of the three directions. Further, MART teaches rotation of all three dimensions (column 6, lines 8-13).

Art Unit: 2672

15. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over MART US Patent No. 5,986,673 in view of CLARK et al US Patent No. 5,574,837, and further in view of CAID et al US Patent No. 5,619,709.

16. Consider claim 3. The modified MART meets limitations for claim 3, however, does not expressly teach or suggest “wherein the second visual representation is a galaxy view”. CAID et al disclose/suggests utilization of a second visual representation as a galaxy view (figures 9a-9c). It would have been obvious to one skilled in the art at the time of the invention to utilize the context vector generation and retrieval of CAID et al with the modified method and system generating, analyzing, and displaying cluster data of the modified MART because both sets of teaching share similar technological functions and environments. Further, CAID et al increases the users ability to analyze clustered information with displayed visualization of the context vector data.

17. Consider claim 10. The modified MART meets limitations for claim 3, however, does not expressly teach or suggest “determining a text based identification of the record represented in the selected portion of the first surface map; and displaying the text based information”. CAID et al disclose/suggest determining a text based identification of the record represented in the selected

Art Unit: 2672

portion of the first surface map (figures 9a-9c); and displaying the text based information (figures 9a-9c).

18. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over CAID et al US Patent No. 5,619,709 in view of CLARK et al US Patent no. 5,574,837.

19. Consider claim 16. CAID et al disclose an apparatus for interactively displaying a set of records and their associated attributes (figure 1a), comprising: at least one memory having program instructions (figure 1, element 107); and at least one processor configured to execute the program instructions to perform the operations (figure 1, element 107), defining a set of graphic images, wherein each graphic image represents a range of values (figure 4); generating a first surface map with the records of the set arranged along a first dimension and graphic images (figure 6) representing attributes associated with the records, arranged along a second dimension (figure 6); receiving input from a user selecting a subset of the records from the first surface map (figures 11, 27, and 28); however, CAID et al does not expressly teach or suggest the following limitations; generating a second visual representation of a plurality of the records in the set; analyzing an index to determine if one or more records in the selected subset are shown in another view; and altering the second visual representation based on the input, when one or more records in the selected subset are shown in another view. Clark et al disclose/suggest the aforementioned

Art Unit: 2672

limitations: generating a second visual representation of a plurality of the records in the set (column 6, lines 14-21, 29-31, and 33-37); analyzing an index to determine if one or more records in the selected subset are shown in another view (figure 1, element 110, and column 2, lines 14-22); and altering the second visual representation based on the input, when one or more records in the selected subset are shown in another view (column 6, lines 14-22, 29-31, and 33-37). It would have been obvious to one skilled in the art at the time of the invention to utilize the cluster analysis and display system and method of CLARK et al with the context vector generation and retrieval of CAIN et al because they share similar technological environments allowing for cluster generation and analysis. Further, CLARK et al's utilization of highlighting clustered data increases the user's visualization of data.

20. Consider claim 17. CAID et al disclose an apparatus for interactively displaying a set of records and their associated attributes (figure 1a), the means for defining a set of graphic images, wherein each graphic image represents a range of values (figure 4); the means for generating a first surface map with the records of the set arranged along a first dimension and graphic images (figure 6) representing attributes associated with the records, arranged along a second dimension (figure 6); the means for receiving input from a user selecting a subset of the records from the first surface map (figures 11, 27, and 28); however, does not expressly teach: the means for analyzing an index to determine if one or more records in the selected subset are shown in another view; and

Art Unit: 2672

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the means for altering the second visual representation based on the input, when one or more records in the selected subset are shown in another view. CLARK et al disclose/suggest the means for analyzing an index to determine if one or more records in the selected subset are shown in another view (column 6, lines 14-22, 29-31, and 33-37); and the means for altering the second visual representation based on the input, when one or more records in the selected subset are shown in another view (column 6, lines 14-22, 29-31, and 33-37). It would have been obvious to one skilled in the art at the time of the invention to utilize the cluster analysis and display system and method of CLARK et al with the context vector generation and retrieval of CAIN et al because they share similar technological environments allowing for cluster generation and analysis. Further, CLARK et al's utilization of highlighting clustered data increases the user's visualization of data.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2672

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

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Any response to this action may be sent via facsimile to either:

(703) 872-9314 (for formal communications marked EXPEDITED PROCEDURE), or

(703) 746-5731 (for informal communications marked PROPOSED or DRAFT).

Hand delivered responses may be brought to:
Sixth floor Receptionist
Crystal Park II
2121 Crystal Drive
Arlington, Virginia.

Serial Number: 09/346,910


Page 14

Art Unit: 2672

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Blackman who may be reached via telephone at (703) 305-0883. The examiner can normally be reached Monday through Friday between 8:30 A.M. and 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, may be reached at (703) 305-4713

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.


JEFFERY BRIER
PRIMARY EXAMINER



Anthony J. Blackman

Patent Examiner

July 28, 2002
